

Product Data Sheet

Filter Elements EROA-..

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Field of application

Type EROA filter elements of filtration grades V, ZF, XF and A are suitable for OMEGA AIR filter housings. We recommend the following filtration grade assignment:

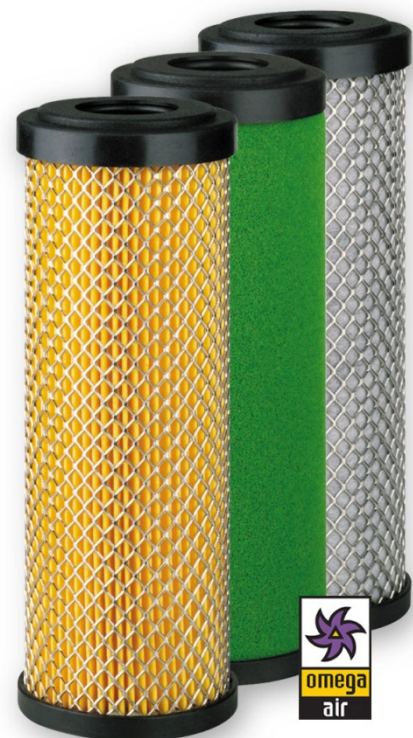
	FST GmbH	OMEGA AIR
Coarse	V	P
General purpose	ZF	M
Fine	XF	S
Activated carbon	A	A

Features

Filter elements of filtration grade V (coarse filter) consist of a pleated coarse filter media, filter elements of filtration grades ZF and XF (coalescing filters) of a pleated depth filter media and a separated external drainage sock (outside foam sock). Thanks to the pleating technology the effective filter surface is increased many times, resulting in much higher dirt holding capacity and a longer service life. At the same time, flow resistance and therefore differential pressure, generated by the filter element, are considerably reduced. To ensure a high operational safety, the pleated depth filter cylinder has at least two or even more layers.

Filter elements of filtration grade A (adsorption filter) comprise of activated carbon granulate, embedded between two coarse filter layers. Using loose activated carbon granulate results in an averagely large amount of activated carbon (1.2 kg of activated carbon for each m² of filter surface). This considerably increases the separation capability and the service life. The 3-layer design contributes to an adequate thickness of the activated carbon bed and thus to a long contact time between compressed air and activated carbon. This results in extremely low residual oil contents.

All the features mentioned above contribute to a filter element which has a high performance (high separation efficiency) combined with economic efficiency (low differential pressure, long service life).



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Specifications subject to change without notice

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Latest version see www.fstweb.de

Basic Data

Model	Nominal volume flow (VN) ^{*1}	Max. operating pressure	Min./Max. operating temperature
EROA-06050	60 m ³ /h	---	+2°C - +65°C
EROA-07050	78 m ³ /h		
EROA-14050	120 m ³ /h		
EROA-12075	198 m ³ /h		
EROA-22075	335 m ³ /h		
EROA-32075	510 m ³ /h		
EROA-50075	780 m ³ /h		
EROA-51090	1,000 m ³ /h		
EROA-76090	1,680 m ³ /h		
EROA-51140	2,160 m ³ /h		
EROA-75140	2,760 m ³ /h		

*1 - refers to 1 bar(a) and 20°C at 7 bar operating pressure

Purity classes according to ISO 8573-1

Contamination	V	ZF	XF	A
Solid particles ^{*2}	Class 6	Class 2	Class 1	(Class 2)
Water content	---	---	---	---
Total oil content ^{*2}	Class 4 ^{*3}	Class 2 ^{*3}	Class 1 ^{*3}	Class 0-1 ^{*4}

*2 - typical result, on the assumption of suitable inlet concentrations as well as operating and marginal conditions

*3 - the oil vapour content is not taken into account, it may reduce the purity class

*4 - the liquid residual oil content is not taken into account and may reduce the purity class (should be separated in advance by means of fine filtration)

Volume flow conversion factors

«F1» - Pressure (in bar)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0.125	0.25	0.38	0.50	0.63	0.75	0.88	1.00	1.13	1.25	1.38	1.50	1.63	1.75	1.88	2.00	2.13

«F2» - Temperature (in °C)

2	5	10	15	20	25	30	35	40	45	50	55	60	65
1.07	1.05	1.04	1.02	1.00	0.98	0.97	0.95	0.94	0.92	0.91	0.89	0.88	0.87

Calculation of the converted volume flow

Converted volume flow VK	Nominal required volume flow VN _{min}
$VK = VN \times F1 \times F2$	$VN_{min} = VK / F1 / F2$

VK : Converted volume flow calculated for the operating conditions

VN_{min}: Nominal required volume flow calculated for the operating conditions, based on the volume flow at operating conditions

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Maintenance rules

Pressure range	V, ZF, XF	A
0-4 bar	Replacement of filter element once a year, the latest on a differential pressure of 50 mbar	Replacement of filter elements every 3 months, depending on the operating temperature and therefore on the specified oil vapour amount earlier, if required
5-16 bar	Replacement of filter element once a year, the latest on a differential pressure of 350 mbar	

Product specific data

Specification	V	ZF	XF	A
Differential pressure	40 mbar	80 mbar	120 mbar	90 mbar
Separation efficiency, dry (nominal)	99.99% (5 μ)	99.9999% (0.1 μ)	99.9999% (0.01 μ)	---
Residual oil content (nominal)	---	$\leq 0.5 \text{ mg/m}^3$	$\leq 0.01 \text{ mg/m}^3$	$\leq 0.005 \text{ mg/m}^3$

Materials

Component	
Coarse filter media	Cellulosic fibres, impregnated (acrylic basis)
Depth filter media, drainage media	Glass fibres, PE (polyester)
Foam sock	PU (polyurethane)
Filter media activated carbon	Activated carbon granulate, PES (polyester) fibre layer
Bonded joint	PU (polyurethane)
Cylinders	Stainless steel 1.4301
End caps	PA6 (polyamide) 30% glass fibres
Sealing materials	NBR

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Dimensions

Model	Height (total height)	Ø	Ø Inlet (inside)
EROA-06050	60 mm	51 mm	24 mm
EROA-07050	70 mm	51 mm	24mm
EROA-14050	140 mm	51 mm	24 mm
EROA-12075	125 mm	75 mm	39.5 mm
EROA-22075	225 mm	75 mm	39.5 mm
EROA-32075	325 mm	75 mm	39.5 mm
EROA-50075	505 mm	75 mm	39.5 mm
EROA-51090	510 mm	90 mm	54 mm
EROA-76090	760 mm	90 mm	54 mm
EROA-51140	510 mm	140 mm	100 mm
EROA-75140	760 mm	140 mm	100 mm

Classification according to Pressure Equipment Directive 2014/68/EU for group 2 fluids

Model	Volume	Category
All models	Filter elements are not part of the Pressure Equipment Directive 2014/68/EU	

Other Directives

Model	
All Models	---